ERIC Document Resume	See Instruction Sheet	DATE OF RESUME 6/23/65	DATE RECEIVED

A. PUBLICATION DATA

1. ERIC NUMBER	2. ORIGINATOR CONTROL NO(S).	3. IDENTIFICATION NO.
ED000126	7464	N.A.

DO NOT WRITE IN SPACE BELOW

4. AUTHOR(S):
Lanterman, Harold Hunt

5. TITLE OF DOCUMENT ABSTRACTED:
A Study of Analytical Chemistry in the Training of High School Teachers of Science

6. PUBLICATION TITLE:
Penn State Review of Educational Research

7. EDITOR(S):
N.A.

8. PLACE OF ORIGIN
ORG. Penn State Unvi.
ST. University Park,
CITY, STATE Pa.
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE
The Pennsylvania State Univ.

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
VI	49-50	Dec. 54	2

MICROFILM COPY AVAILABLE
YES ☒ NO ☐

COPYRIGHT GRANTED
YES ☐ NO ☒

COPYRIGHT RELEASE FILED
YES ☐ NO ☐

TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☐
FINAL ☒
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR abstract of doctoral dissertation and experimental study

16. INDEXING TERMS (6-12)

abstracts	teacher edu.	curriculum	
experimental studies	science	values	
professional edu.	chemistry	secondary edu.	

17. ABSTRACT (MAX. 250 WORDS)

An appraisal of topics in analytical chemistry most suited to the training of secondary science teachers, how much time should be allotted for this course, and what values might be expected.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION	20. DIVISION OR DEPT.	21. CONTRACT NO. / PROJECT NO.
	22. TOTAL COST OF PROJECT	
	23. DURATION OR PROJECT	U.S. Department of Health, Education, and Welfare, Office of Education

HE7464

A STUDY OF ANALYTICAL CHEMISTRY IN THE TRAINING OF HIGH SCHOOL TEACHERS OF SCIENCE

- Harold Hunt Lanterman -

ED000126

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

Problem

What in Analytical Chemistry should be part of a teacher-education program in Science? Subordinate problems are focused upon with this presentation: Can a suggested course content be developed.

In the discussion of the problem other questions become apparent: What topics in Analytical Chemistry are most suited to the training of Secondary Science Teachers? How much time may be allotted for this course? What values may be expected?

The need for the study is suggested in that College Science Teachers should be alert to the needs of prospective High School Science Teachers, to teach Secondary School Chemistry as directed in the Bulletin 400, of Pennsylvania Department of Public Instruction, titled "Course of Study in Science for Secondary Schools."

The definitions of terms are given and the limitations of the study surveyed.

Review of Literature

The literature was reviewed for the last twenty-five years, with some areas previous to this date. The primary sources were the Journal of Chemical Education and many reference books. Parallel studies are reviewed and one in particular, a Columbia dissertation, "College Chemistry in Nursing Education," by Enda Curtiss Morse,printed as a monograph in 1947, closely follows the general problem of this study.

Other noteworthy studies all being Columbia dissertations, were also reviewed.

Many other texts and articles found in many periodicals were cited in the study in one way or another.

The review of the literature continues with reference to trends and needs of Secondary Science Teacher Training given as indicated from these sources; an analysis of the relation of topics in Analytical Chemistry to topics in Secondary School Chemistry by comparison of topics in Bulletin 400, typical High School Chemistry text, a typical College Chemistry text and the proposed course of study in Analytical Chemistry for Science Teachers.

Further, a topical analysis of content of Analytical Chemistry as it reflects those similar topics of Secondary School Chemistry content is discussed in detail.

EDO 00126

Data, Development of Course Content

A proposed course of study in Analytical Chemistry is developed. Discussed are: its implications, an innovation herein includes the use of organic reagents, with the subsequent elimination of the old hydrogen sulphide reagent in more recent common practice. This chapter also features the five group procedure of Fresenius with modern adaptations to the use of either macro or semi-micro techniques.

A detailed outline of the entire course of study is given, featuring a single semester course in both Qualitative and Quantitative Analysis as a full year's experience in Analytical Chemistry. Both semesters are consecutively arranged in the outline. Critical discussion of the proposed course is given. See dissertation.

Conclusion

Chapter IV contains the summary and conclusions and recommendations. Prominent among the conclusions are the following:

1. A better view of the subject matter to be taught Secondary Science pupils has been developed.

2. With a broadened experience in the Science Teachers' College training, a more flexible use of chemical knowledge in teaching Secondary Science pupils should result.

3. Analytical Chemistry in the training of Science Teachers tends to amplify the Chemistry learnings as suggested in Bulletin 400.

4. A proposed course of study in Analytical Chemistry was developed to accomplish the general education needed for prospective teachers of science. The recommendations were suggested for putting the proposed course content into active college teaching.

Further research was indicated primarily in the field of widening the teaching of Chemistry and comparing practices.